

Serial No. 08/794,637  
Page 2 of 21

### **IN THE CLAIMS**

Please consider the claims as follows:

1-7. (canceled)

8. (currently amended) A method of allocating bandwidth to a plurality of programs, each of said programs corresponding to one of a plurality of categories, said method comprising the steps of:

prioritizing each of said programs by assigning to each of said programs one of a plurality of priority levels, said plurality of priority levels including a high priority level and progressively lower priority levels;

dividing said bandwidth so that each program category receives a segment of said bandwidth;

allocating a portion of said segments of bandwidth to high priority level programs in each category; and

continuing said allocating step with progressively lower priority levels programs until at least one of the following conditions occurs:

all of said programs are allocated, and

all of said bandwidth is allocated,

wherein each priority level includes a different set of programs from a variety of categories, and wherein the high priority level includes a first finite number of programs from each of the plurality of categories and a lower priority level includes a second finite number of different programs from each of the plurality of categories.

9. (original) The method of claim 8, wherein the step of allocating includes dynamically changing the bandwidth allocation over time.

10. (original) The method of claim 8, wherein the step of prioritizing uses an algorithm to weigh programs watched information when determining a program's priority.

11. (original) The method of claim 8, wherein the step of prioritizing uses an  
443150-1

Serial No. 08/794,637  
Page 3 of 21

algorithm to weigh marketing information when determining a program's priority.

12. (original) The method of claim 8, wherein the high priority level corresponds to programs included in one cable television service and a lower priority level corresponds to programs included in a different cable television service.

13. (cancelled)

14. (original) The method of claim 8, wherein the high priority level corresponds to cable television programs and a lower priority level corresponds to pay-per-view programs.

15. (original) The method of claim 14, wherein an even lower priority level corresponds to high definition television programs.

16. (original) The method of claim 8, wherein the high priority level corresponds to sports-related television programs and a lower priority level corresponds to news-related television programs.

17. (original) The method of claim 16, wherein an even lower priority level corresponds to documentaries.

18. (currently amended) A method of transmitting a plurality of programs to a cable headend, each of said plurality of programs corresponding to one of a plurality of categories, said method comprising the steps of:

prioritizing each of said programs by assigning to each of said programs one of a plurality of priority levels, said plurality of priority levels including a high priority level and progressively lower priority levels;

forming a plurality of signals, each of said signals comprising programs corresponding to a single priority level;

appending a header to each of said signals, wherein said header identifies said priority level for a corresponding signal, thereby enabling recognition by said cable headend;

443150-1

Serial No. 08/794,637  
Page 4 of 21

dividing bandwidth so that each program category receives a segment of said bandwidth;

allocating a portion of said segments of bandwidth to signals comprising high priority level programs in each category;

continuing said allocating step with signals comprising progressively lower priority level programs until at least one of the following conditions occurs:

all of the signals are allocated; and

all of said bandwidth is allocated; and

transmitting each of said headers and said corresponding signals to said cable headend,

wherein each priority level includes a different set of programs from a variety of categories, and wherein the first priority level includes a first finite number of programs from each of the plurality of categories and the second priority level includes a second finite number of remaining programs from each of the plurality of categories.

19 (original) The method of claim 18, further comprising the steps of digitizing each of said headers and said corresponding signals into digitized signals;

compressing the digitized signals into compressed signals, and  
combining the compressed signals with a program information signal.

20. (original) The method of claim 18, wherein the high priority level corresponds to programs included in a cable television service and a lower priority level corresponds to programs included in a different cable television service.

21. (cancelled)

22. (original) The method of claim 18, wherein the high priority level corresponds to cable television programs and a lower priority level corresponds to pay-per-view programs.

23. (original) The method of claim 18, wherein the high priority level corresponds to sports-related television programs and a lower priority level corresponds to news-

443150-1

Serial No. 08/794,637  
Page 5 of 21

related television programs.

24. (original) The method of claim 18, wherein the high priority level corresponds to television programs available during a specified period of time and a lower priority level corresponds to television programs available during a different period of time.

25. (original) A method of transmitting programs to a plurality of transponders, said method comprising the steps of:

- prioritizing each of said programs by assigning to each of said programs one of a plurality of priority levels, said plurality of priority levels including a high priority level and progressively lower priority levels;

- forming a plurality of signals, each of said signals comprising programs corresponding to a single priority level;

- allocating a portion of bandwidth to signals comprising high priority level programs;

- continuing said allocating step with signals comprising progressively lower priority level programs until at least one of the following conditions occurs:

- all of the signals are allocated; and

- all of said bandwidth is allocated; and

- transmitting said plurality of signals to said plurality of transponders so that none of said transponders receives more than one of said signals.

26-27. (canceled)

28. (original) The method of claim 25 further comprising the step of appending a header to each of said signals, wherein said header identifies said priority level for a corresponding signal, thereby enabling recognition by said transponder.

29. (original) The method of claim 28, further comprising the steps of:

- digitizing each of said headers and said corresponding signals into digitized signals;

- compressing the digitized signals into compressed signals; and

- combining the compressed signals with a program information signal.

443150-1

Serial No. 08/794,637  
Page 6 of 21

30. (original) The method of claim 28 further comprising the step of dynamically changing bandwidth allocation for at least one of said signals.

31. (cancelled)

32. (previously presented) The method according to claim 30, wherein the step of dynamically changing the bandwidth allocation includes varying a compression ratio of at least one of the selected programs.

33. (previously presented) The method according to claim 30, wherein the step of dynamically changing the bandwidth allocation includes allocating bandwidth to at least one of the selected programs based on an amount of changes within at least one of the selected programs over time.

34. (previously presented) The method according to claim 33, wherein said changes occur frame to frame.

35. (previously presented) The method according to claim 33, wherein said changes are changes in visual detail.

36-39. (cancelled)

40. (previously presented) The method according to claim 9, wherein the step of dynamically changing the bandwidth allocation over time includes varying the compression ratio of at least one of the selected programs.

41. (previously presented) The method according to claim 9, wherein the step of dynamically changing the bandwidth allocation over time includes allocating bandwidth to at least one of the selected programs based on an amount of changes within at least one of the selected programs over time.

42. (previously presented) The method according to claim 41, wherein said changes  
443150-1

Serial No. 08/794,637  
Page 7 of 21

occur frame to frame.

43. (previously presented) The method according to claim 41, wherein said changes are changes in visual detail.

44. (previously presented) The method according to claim 18, wherein the step of allocating includes dynamically changing the bandwidth allocation over time.

45. (previously presented) The method according to claim 44, wherein the step of dynamically changing the bandwidth allocation includes varying a compression ratio of at least one of the selected programs.

46. (previously presented) The method according to claim 44, wherein the step of dynamically changing the bandwidth allocation includes allocating bandwidth to at least one of the selected programs based on an amount of changes within at least one of the selected programs over time.

47. (previously presented) The method according to claim 46, wherein said changes occur frame to frame.

48. (previously presented) The method according to claim 46, wherein said changes are changes in visual detail.

49. (previously presented) The method according to claim 159, wherein the step of dynamically changing the bandwidth allocation induces varying a compression ratio of at least one of the selected programs.

50. (previously presented) The method according to claim 159, wherein the step of dynamically changing the bandwidth allocation includes allocating bandwidth to at least one of the selected programs based on an amount of changes within at least one of the selected programs over time.

51. (previously presented) The method according to claim 50, wherein said changes  
443150-1

Serial No. 08/794,637  
Page 8 of 21

occur frame to frame.

52. (previously presented) The method according to claim 50, wherein said changes are changes in visual detail.

53-78. (cancelled)

79. (currently amended) A computer assisted packaging system for allocating bandwidth to a plurality of programs, each of the programs corresponding to one of a plurality of categories, comprising:

- a central processing unit for selecting the programs and also for dividing the bandwidth so that each of the program categories receives a segment of the bandwidth;
- a delivery control processor unit connected to said central processing unit; and
- a multiplexer connected to said delivery control processor unit for allocating a portion of said segments of bandwidth to the selected programs in at least one of the categories.

wherein said central processing unit dynamically changes the bandwidth by varying a number of the selected programs within at least one of the selected categories.

80. (previously presented) The system according to claim 79, further comprising a video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation over time.

81. (previously presented) The system according to claim 80, wherein said video/audio equipment dynamically changes the bandwidth allocation by changing a compression ratio of at least one of the selected programs, whereby programs with higher compression ratios require lower bit rates and less bandwidth, and programs with lower compression ratios require higher bit rates and more bandwidth.

82. (previously presented) The system according to claim 80, wherein the step of dynamically changing the bandwidth allocation over time includes allocating bandwidth to at least one of the selected programs based on an amount of changes within at least

443150-1

Serial No. 08/794,637  
Page 9 of 21

one of the selected programs over time.

83. (previously presented) The system according to claim 82, wherein said changes occur frame to frame.

84. (previously presented) The system according to claim 82, wherein said changes are changes in visual detail.

85. (cancelled)

86. (previously presented) The system according to claim 79, wherein said central processing unit further comprises an algorithm for selecting said programs.

87. (previously presented) A computer assisted packaging system for allocating bandwidth to a plurality of programs according to claim 79, wherein said central processing unit further assigns priority levels to the programs by assigning to each of said programs a priority level from a plurality of priority levels, said plurality of priority levels includes a high priority level and progressively lower priority levels and also for dividing the bandwidth so that each program category receives a segment of the bandwidth; and

said multiplexer further allocates a portion of said segments of bandwidth to selected programs in each of the categories with highest of said priority levels and continues to allocate segments of bandwidth to progressively lower priority level programs in each of the categories.

88. (previously presented) The system according to claim 87, further comprising a video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation over time.

89. (previously presented) The system according to claim 88, wherein said video/audio equipment changes the bandwidth allocation over time by changing a compression ratio of at least one of the selected programs, whereby programs with higher compression ratios require lower bit rates and less bandwidth, and programs

443150-1



Serial No. 08/794,837  
Page 10 of 21

with lower compression ratios require higher bit rates and more bandwidth.

90. (previously presented) The system according to claim 88, wherein the step of dynamically changing the bandwidth allocation over time includes allocating bandwidth to at least one of the selected programs based on an amount of changes within at least one of the selected programs over time.

91. (previously presented) The system according to claim 90, wherein said changes occur frame to frame.

92. (previously presented) The system according to claim 90, wherein said changes are changes in visual detail.

93. (previously presented) The system according to claim 87, wherein said central processing unit further comprises an algorithm for assigning said priority levels.

94. (previously presented) The system according to claim 87, wherein said central processing unit appends a header to all the selected programs with the same priority level, wherein said appended header identifies said priority level for the program.

95. (currently amended) A system for allocating bandwidth to a plurality of programs, each of said programs corresponding to one of a plurality of categories, comprising:

an operations center comprising a computer assisted packaging system;

said computer assisted packaging system comprising:

a central processing unit for selecting programs received from television programming sources and also for dividing said bandwidth so that each of the program categories receives a segment of the bandwidth;

a delivery control processor unit connected to said central processing unit;

and

a multiplexer connected to said delivery control processor unit for allocating a portion of said segments of bandwidth to the selected programs,

wherein said central processing unit dynamically changes bandwidth by varying a number of selected programs within at least one of the selected categories.

443150-1

Serial No. 08/794,637  
Page 11 of 21

96. (previously presented) The system according to claim 95, further comprising a video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation over time.

97. (previously presented) The system according to claim 96, wherein said video/audio equipment dynamically changes bandwidth allocation by changing a compression ratio of at least one of the selected programs, whereby programs with higher compression ratios require lower bit rates and less bandwidth, and programs with lower compression ratios require higher bit rates and more bandwidth.

98. (previously presented) The system according to claim 96, wherein the step of dynamically changing the bandwidth allocation over time includes allocating bandwidth to at least one of the selected programs based on an amount of changes within at least one of the selected programs over time.

99. (previously presented) The system according to claim 98, wherein said changes occur frame to frame.

100. (previously presented) The system according to claim 98, wherein said changes are changes in visual detail.

101. (previously presented) The system according to claim 95, wherein said central processing unit further comprises an algorithm for selecting said programs.

102. (cancelled).

103. (currently amended) The system according to claim ~~[[102]]~~95, further comprising a video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation over time.

104. (previously presented) The system according to claim 103, wherein said video/audio equipment dynamically changes bandwidth allocation by changing a

443150-1

Serial No. 08/794,837  
Page 12 of 21

compression ratio of at least one of the selected programs, whereby programs with higher compression ratios require lower bit rates and less bandwidth, and programs with lower compression ratios require higher bit rates and more bandwidth.

105. (previously presented) The system according to claim 103, wherein the step of dynamically changing the bandwidth allocation over time includes allocating bandwidth to at least one of the selected programs based on an amount of changes within at least one of the selected programs over time.

106. (previously presented) The system according to claim 105, wherein said changes occur frame to frame.

107. (previously presented) The system according to claim 105, wherein said changes are changes in visual detail.

108. (cancelled)

109. (currently amended) The system according to claim ~~[[102]]~~95, wherein said central processing unit further comprises an algorithm for selecting said programs.

110-121. (cancelled)

122. (previously presented) The method of claim 8, wherein the step of prioritizing uses an algorithm to weigh consumer demand when determining a program's priority.

123. (previously presented) The method of claim 8, wherein said step of allocating includes dynamically changing the bandwidth allocation on demand.

124. (previously presented) The method of claim 8, wherein said step of allocating includes dynamically changing the bandwidth allocation based on consumer demand.

125. (previously presented) The method of claim 8, wherein said step of allocating includes dynamically changing the bandwidth allocation in real-time.

443150-1

Serial No. 08/794,637  
Page 13 of 21

126. (previously presented) The method of claim 18, wherein said step of allocating includes dynamically changing the bandwidth allocation on demand.

127. (previously presented) The method of claim 18, wherein said step of allocating includes dynamically changing the bandwidth allocation based on consumer demand.

128. (previously presented) The method of claim 18, wherein said step of allocating includes dynamically changing the bandwidth allocation in real-time.

129. (previously presented) The method of claim 159, wherein said bandwidth allocation is dynamically changed on demand.

130. (previously presented) The method of claim 159, wherein said bandwidth allocation is dynamically changed based on consumer demand.

131. (previously presented) The method of claim 159, wherein said bandwidth allocation is dynamically changed in real-time.

132. (previously presented) The method of claim 30, wherein said bandwidth allocation is dynamically changed on demand.

133. (previously presented) The method of claim 30, wherein said bandwidth allocation is dynamically changed based on consumer demand.

134. (previously presented) The method of claim 30, wherein said bandwidth allocation is dynamically changed in real-time.

135-143. (cancelled)

144. (previously presented) The system of claim 79, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation on demand.

443150-1

Serial No. 08/794,637  
Page 14 of 21

145. (previously presented) The system of claim 79, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation based on consumer demand.

146. (previously presented) The system of claim 79, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation in real-time.

147. (previously presented) The method of claim 87, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation on demand.

148. (previously presented) The system of claim 87, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation based on consumer demand.

149. (previously presented) The system of claim 87, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation in real-time.

150. (previously presented) The system of claim 95, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation on demand.

151. (previously presented) The system of claim 95, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation based on consumer demand.

152. (previously presented) The system of claim 95, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation in real-time.

443150-1

Serial No. 08/794,637  
Page 15 of 21

153. (currently amended) The system of claim ~~[[102]]~~95, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation on demand.

154. (currently amended) The system of claim ~~[[102]]~~95, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation based on consumer demand.

155. (currently amended) The system of claim ~~[[102]]~~95, further comprising video/audio equipment connected to said central processing unit for dynamically changing the bandwidth allocation.

156-158. (cancelled)

159. (previously presented) A method of transmitting programs to a plurality of transponders, said method comprising the steps of:

- prioritizing each of said programs by assigning to each of said programs one of a plurality of priority levels, said plurality of priority levels including a high priority level and progressively lower priority levels;

- forming a plurality of signals, each of said signals comprising programs corresponding to a single priority level;

- allocating a portion of bandwidth to signals comprising high priority level programs;

- dynamically changing bandwidth allocation for at least one of said signals;

- continuing said allocating step with signals comprising progressively lower priority level programs until at least one of the following conditions occurs:

- all of the signals are allocated; and

- all of said bandwidth is allocated; and

- transmitting said plurality of signals to said plurality of transponders so that none of said transponders receives more than one of said signals.